SOV/124-58-2-1840

On the Influence of Turbulence on the Breakdown of a Liquid Jet

coefficient of the fuel, respectively, and α is the coefficient of surface tension of the fuel. Values of the factor c and the exponents m and n are adduced for three Reynolds-number ranges corresponding to the three flow regimes of the fuel in the nozzle openings, namely, 1) the laminar ($c=8.22 \times 10^4$, $m=0.4$, $n=0.268$), 2) the transitional ($c=6.91 \times 10^5$, $m=0.4$, $n=0.546$), and 3) the turbulent ($c=1.4 \times 10^7$, $m=0.4$, $n=0.933$). The author states his conclusion that turbulence appears to be one of the causes for the breakdown of liquid jets.

Yu. F. Dityakin

Card 2/2

Lyshevskiy, A.S.

PHASE I BOOK EXPLOITATION   SOV/4221

Novocherkassk. Politekhnicheskiy institut

Raboty mekhanicheskogo fakul'teta (Works of the Division of Mechanics)
 [Novocherkassk] 1958. 203 p. (Series: Its: Trudy, tom 90) Errata slip
 inserted. 2,000 copies printed.

Editorial Board: V.P. Mikhaylov (Resp. Ed.), Candidate of Technical Sciences,
 Docent; A.A. Pyatnitskiy, Professor; P.M. Vlasov, Candidate of Technical
 Sciences, Docent; I.N. Goncharov, Candidate of Technical Sciences, Docent;
 P.P. Klochko, Candidate of Technical Sciences, Docent; N.M. Savin, Candidate
 of Technical Sciences, Docent; and A.A. Kutukov (Resp. Secretary), Candidate
 of Technical Sciences, Docent; Tech. Ed.: P.S. Baymatov.

PURPOSE: This book is intended for technical personnel in mechanical engineering.

COVERAGE: This collection of works deals with investigations of internal combus-
 tion engines, metal cutting, gears, resistance-type strain gages, and wear
 of machine parts. No personalities are mentioned. References accompany
 several of the articles.

Card 1/7

Works of the **Division** , of Mechanics

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Follower and a Guide
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subjected only to linear-reciprocating and rotary motion and that the
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Belitskiy, M.S. [Candidate of Technical Sciences, Docent, Department of the
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Works of the Division, of Mechanics

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planes the author derives an expression for calculating the maximum allowable clearance between a cylinder liner and a piston skirt. With the formula derived, he makes calculations for a number of Soviet types of engines and concludes that presently used standard clearances are too small and may be increased to their maximum values as determined by calculation. The increase in clearance will result in the reduction of wear and repair costs.

Zimin, Yu.P. [Candidate of Technical Sciences, Docent, Department of Machine-Building Technology], and K.M. Stroyeva [Candidate of Technical Sciences, Docent, Department of Metal Technology]. Investigation of the Properties of High-Speed Steel Made From Chips

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Chemical, macro-, and microstructural analysis, hardness tests, and determination of density and cutting properties were made for original and heat-treated specimens made of chips produced by milling of types P9 and P18 high-speed steels. Comparative tests were also made of cutting tools manufactured from the standard steels mentioned above and from their chips. The results show that the properties of cutting tools remain nearly the same in all cases.

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Works of the Division of Mechanics   SOV/4221

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    The author presents a summary of results of a set of experimental investi-
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Works of the Division of Mechanics

SOV/4221

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Works of the Division of Mechanics

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Savin, M.M. [Senior Instructor, Department of the Theory of Mechanisms and
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  The wear of screw mechanisms made of bronze, cast iron, and textolite with
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the use of a modified cast iron bearing in place of bronze and the replace-
ment of square threads by trapezoidal will increase the wear resistance.

Burak, A.K. [Assistant Professor, Department of Metal Technology and the Science
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  The method described reduces design calculations and may be used in the de-
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Mamadzhanov, I.G. [Assistant Professor, Department of the Theory of Mechanisms
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cess of loosening of bolted joints subjected to vibratory loads.

AVAILABLE: Library of Congress

VK/pw/sfm
9/29/60

Card 7/7

LYSHEVSKIY, A.S., kand. tekhn.nauk, dots.

Stability and disintegration of a hollow jet of viscous liquid
moving at low speed. Izv. vys. ucheb. zav.; energ. no.3:95-102
Mr '58.

(MIRA 11:5)

1.Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhni-
cheskiy institut imeni Sergo Ordzhonikidze.
                    (Hydrodynamics)

LYSHEVSKIY, A.S., kand.tekhn.nauk, dots.

Determining liquid friction force between the cylinder and piston. Energomashinostroenie 4 no.5:24-25 My '58. (MIRA 11:9)
(Friction)   (Gas and oil engines)

113-58-6-7/16

AUTHOR: Lyshevskiy, A.S., Candidate of Technical Sciences

TITLE: The Determination of Delayed Ignition in Diesel Engines
             (Opredeleniye zaderzhki vosplameneniya topliva v dvigatelyakh
             s vosplameneniyem ot szhatiya)

PERIODICAL: Avtomobil'naya promyshlennost', 1958, Nr 6, pp 19-22 (USSR)

ABSTRACT: The delayed ignition in combustion chambers of diesel engines
             influences the whole working process. The longer this delay,
             the more fuel there is to explode at once and this sharply in-
             creases the pressure on the crankshaft and the bearings of the
             crankshaft. Such ignition is detrimental for the engine and
             shortens its lifetime. General determination of the delayed
             ignition is different for each type of engine, and it was im-
             possible to devise a general formula. A.I. Serbinov (Ref. 1)
             and A.I. Tolstov (Ref. 2) proposed various formulae for
             different types of engines. The author tentatively proposes
             analytic and graphic calculation for two- and four stroke
             light, fast diesel engines with undivided chambers. The method,
             described in detail, is the first attempt to apply the equality
             theory and the theory of dimension to research on working pro-

Card 1/2

The Determination of Delayed Ignition in Diesel Engines   113-58-6-7/16

cess of internal combustion engines, but does not give a com-
plete answer to the problem.
There are 11 graphs and 7 Soviet references.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut imeni Ordzhonikidze
(The Novocherkassk Polytechnical Institute imeni Ordzhonikidze)

Card 2/2   1. Diesel engines--Operation   2. Ignition (Delay)--Determination

LYSHEVSKIY, A.S., kand.tekhn.nauk, dots.

Effect of the ambient medium on the breakdown of a hollow liquid jet. Izv.vys. ucheb.zav.; energ. no.6:108-112 Je '58.   (MIRA 11:9)

1.Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhni-cheskiy institut im. Sergo Ordzhonikidze.
(Jets)

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1960, No. 10, p. 328,
51432

AUTHOR: Lyshevskiy, A.S.

TITLE: The Instability and Disintegration of Round Jets of Viscous Liquids
            Surrounded by Non-Viscous Liquids

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1958, Vol. 46/60, Raboty mekhan.
            fak. part 2, pp. 49-61

TEXT: The author presents the results of investigating the instability and
disintegration of a round jet of viscous liquids at different densities of the non-
viscous liquids surrounding it. In former investigations of the atomization of a
jet of liquid, the effect of the density of the surrounding medium on the stability
and disintegration of the jet was neglected. With the present article the author
tries to analyze this effect. Based on the assumption that the disintegration of
the jet is caused by oscillation processes on its surface, the author, compiling

Card 1/2

S/123/60/000/010/011/011
A004/A001

The Instability and Disintegration of Round Jets of Viscous Liquids Surrounded
by Non-Viscous Liquids

for the given conditions differential equations of small oscillations, presents
a mathematical solution of the problem with the aid of tensor analysis.

G.Yu.G.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

11.1000
11.5000

82353

S/124/60/000/003/009/017
AC05/A001

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 3, p. 44, # 3212

AUTHOR: Lyshevskiy, A. S.

TITLE: The Variability of Speed Along the Axis of an Atomized-Fuel Flame"

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1958, Vol. 46/60, Raboty Mekhan. fak., part 2, pp. 63-71

TEXT: The formulae found in literature were analyzed, which characterize the time-variable speed of the flame of atomized fuel flowing out from the sprayer of an engine with compression ignition. The drawbacks of these formulae are pointed out. A formula for the axial speed u_m of an atomized-fuel flame is derived, based on the theory of the free turbulent jet. This formula has the form:

$$u_m = 0.965 \frac{u_c \, r_c}{x \, \text{tg} \, \theta/2} \sqrt{\frac{\rho_m}{\rho_b}},$$

where u_c is the fuel outflow speed, r_c is the radius of the sprayer nozzle, ρ_m

Card 1/2

82353   S/124/60/000/003/009/017
                          A005/A001

The Variability of Speed Along the Axis of an Atomized-Fuel Flame

and ρ_b are the densities of fuel and medium, into which the fuel flows out, x is
the abscissa along the flame axis, θ is the flame cone angle of the atomized
fuel. The results from the above-mentioned formula are compared to the experimental
data from investigations of other authors. It turned out that the formula
correctly describes the variation of the axial flame speed of atomized fuel.
There are 4 references.

                                        Yu. F. Dityakin

Card 2/2

SOV/143-59-3-15/20

11(2,4)
AUTHOR:

Lyshevskiy, A.S., Candidate of Technical Sciences, Docent

TITLE:
The Disintegration of a Viscous Liquid Stream Under the Influence of Unsymmetrical Disturbances (Raspad strui vyazkoy zhidkosti pod vozdeystviyem nesimmetrichnykh vozmushcheniy)

ABSTRACT:
The experimental investigation of the disintegration of liquid streams flowing out of nozzle orifices shows that disturbances occur on the outer surface of the streams upon leaving the nozzles. The shape of the disturbances depends to a considerable degree on the design and the shape of the nozzle, flow velocities and the composition of the surrounding medium. Axial-symmetrical and unsymmetrical disturbances have the greatest importance for the disintegration according to experimental data. The author analyzed by means of hydrodynamic equations the development of

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SOV/143-59-3-15/20

The Disintegration of a Viscous Liquid Stream Under the Influence
of Unsymmetrical Disturbances

unsymmetrical disturbances on the surface of a vis-
cous liquid stream which moves into a viscous medium.
He presents equations for the development of a distur-
bance at the surface of the stream, equations for the
development of disturbances of the surrounding medium
and their solutions, and boundary conditions. Finally,
he analyzes the disintegration of a stream, he mentions
especially liquid stream disintegrating in a gaseous
medium. The results of this analysis are shown in
graphs, figures 2-4. There are 3 graphs, 1 diagram
and 10 references, 5 of which are Soviet, 1 Japanese
and 1 German.

ASSOCIATION: Novocherkasskiy ordena Trudovogo Krasnogo Znameni Poli-
tekhnicheskiy institut imeni S. Ordzhonikidze (Novo-
charkassk-Red Labor Banner Order-Polytechnic Institute
imeni S. Ordzhonikidze) Kafedra dvigateley vnutrennego
sgoraniya (Chair of Internal Combustion Engines)

SUBMITTED: October 17, 1958

Card 2/2

LYSHEVSKIY, A.S., dotsent, kand.tekhn.nauk

Determining characteristic parameters for the quality of liquid-fuel pulverization. Izv.vys.ucheb.zav.; mashinostr. no.7:117-124 '59.
(MIRA 13:6)

1. Novocherkasskiy politekhnicheskiy institut.
        (Fuel pumps--Testing)

22218

S/124/61/000/003/008/028
A005/A105

ID 2000

AUTHOR: Lyshevskiy, A. S.

TITLE: On the stability and destruction of a flat jet of a viscous liquid
               surrounded by another viscous liquid

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1961, abstract 3B336.
               (Tr. Novocherk. politekhn. inta, 1959, vol. 86, 37-69)

TEXT: The author theoretically investigates the loss in stability of a
flat jet of viscous liquid moving in another viscous liquid at a very low speed;
hereat, the author uses the method of small disturbances. For simplifying the
problem solution, the case is considered that the disturbed motion proceeds with
an amplitude very small in comparison to the wavelength. Then one can neglect
the nonlinear terms in the Helmholtz-type equation of the disturbed motion. The
particular solution of the obtained linear equation may be presented as consisting
of   eddyfree and eddying parts. If using the ordinary boundary conditions at
the surfaces of the liquid section, an equation of the complex frequency is ob-
tained (individually for the cases of symmetric and asymmetric disturbances).
The cases of nonviscous and viscous surrounding media are considered. The

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22218

On the stability and destruction ...

influence of the criteria ρ_2/ρ_1 and $\mu_1^2/\rho_1 \acute{6}a$ on the magnitude of the oscillation increment is analyzed (here ρ_2 and ρ_1 are the densities of the jet and the surrounding medium respectively, μ_1 is the absolute viscosity of the jet liquid, $\acute{6}$ is the surface tension coefficient a is the half-width of the jet).

Yu. Dityakin

[Abstractor's note: Complete translation]

Card 2/2

22219
S/124/61/000/003/009/028
A005/A105

26.71131

AUTHOR: Lyshevskiy, A. S.

TITLE: On the criterion of destruction of liquid droplets

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1961, 48-49, abstract 3B337
                  (Tr. Novocherk. politekhn. in-ta, 1959, v. 86, 71-86)

TEXT: The author reviews the works on the study of the destruction of a
liquid droplet under the effect of aerodynamic forces. The destruction of a
spherical liquid mass which a gas stream flows around, and the surface of which
is affected by little disturbances, is theoretically considered. The liquids
of both the droplet and the surrounding medium are assumed to be nonviscous,
imponderable, and imcompressible. As a result of using the known solution of the
Laplace equation, expressed by the Legendre polynomials, as well as the boundary
conditions at the droplet surface, an equation is obtained for determining the
magnitude of the oscillation increment. In contrast to the known case of the
droplet oscillation without a gas stream flowing around (Rayleigh solution), the
spherical coordinate enters into this equation. It is found out that most au-
spicious conditions for the droplet destruction are given, if this coordinate is

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22219

On the criterion of destruction of liquid droplets

S/124/61/000/003/009/028
A005/A105

equal to zero. The condition of transition from decreasing to increasing droplet oscillations is obtained which yields the limiting value of the droplet destruction criterion $u^2 \rho_2 a / \sigma > 6$ (u is the velocity of the gas stream flowing around the droplet, σ_2 is the density of the medium surrounding the droplet, a is the droplet radius, σ is the coefficient of surface tension). The comparison of this value of the destruction criterion with the experimental data obtained by M. S. Volynskiy (Dokl. AN SSSR, 1948, v. 62, no. 3) showed satisfactory agreement. There are 8 references.

Yu. Dityakin

[Abstractor's note: Complete translation]

Card 2/2

89426

S/143/60/000/006/007/008
A169/A026

26.2133

AUTHOR: Lyshevskiy, A.S., Candidate of Technical Sciences, Docent

TITLE: Investigation of Regularities in the Motion of an Atomized Liquid
             Flow

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1960, No. 6,
             pp. 136 - 144

TEXT: The basic regularities of the motion of an atomized liquid flow
were established as a result of an experimental investigation with the aid of
high-speed photography. Diesel oil (0.848 g/cm^3 specific weight, 0.05 cm^2/sec
kinematic viscosity, 0.028 g/cm surface tension at 20°C) was injected into a
steel cylinder of 200 mm in diameter by a twelve-plunger fuel pump. The nozzle
was installed in one butt end of the cylinder. A window of 92 mm diameter, lo-
cated on the opposite butt end, was used for illuminating the interior of the
chamber with an electric arc. Two 314 x 90 mm windows were installed opposite
each other on the sides of the cylinder. One of these windows was used for the
additional illumination of the chamber by two 500 w bulbs, while the CKC -1 (SKS-
-1) motion picture camera was placed on the opposite side. The maximum camera
speed was 4,700 frames per sec. An MH-7 (MN-7) neon tube was used for fixing

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89426

S/143/60/000/006/007/008
A169/A026

Investigation of Regularities in the Motion of an Atomized Liquid Flow

the time intervals (100 flashes per sec). Three series of tests were performed:
1) At different pressures in the chamber, ranging from 0 to 18.5 atm (the pres-
sure was maintained by a two-stage piston compressor); 2) at different injec-
tion pressures (up to 260 kg/cm^2); 3) with different types of nozzle bores.
The nozzles were made of brass and had bore dimensions ranging from 0.23 - 1.04
mm. The ratio between the length of the bore and its diameter ranged from 2.0
to 4.5. The results of the experiments were compiled in graphs. According to
its external appearance, an atomized liquid flow is a typical case of the devel-
opment of a free turbulent flow. The external border approaches the cone-shaped
surface, as in all axially-symmetric flows. With the progressing motion of the
atomized liquid, the volume concentration of the liquid decreases considerably,
due to the mixing with the surrounding air. At a sufficiently great distance
from the nozzle the ratio between air volume and liquid volume is greater than
1/1,000. Consequently, it is justified to regard the atomized liquid flow in a
first approximation as a free turbulent flow. The necessary correction factors
can be determined experimentally. There are 9 figures and 7 Soviet references.

ASSOCIATION: Novosibirskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy
              institut imeni S. Ordzhonikidze (Novosibirsk Order of the Red La-

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89426
S/143/60/000/006/007/008
A169/A026

Investigation of Regularities in the Motion of an Atomized Liquid Flow

bor Banner - Polytechnical Institute imeni S. Ordzhonikidze)

PRESENTED: Department of Internal Combustion Engines

SUBMITTED: October 19, 1959

Card 3/3

S/143/60/000/007/006/010
A189/A029

AUTHOR: Lyshevskiy, A.S., Candidate of Technical Sciences, Docent

TITLE: Axially-Symmetric Disintegration of a Round Jet of Viscous Fluid

PERIODICAL: Energetika, 1960, Vol 3, Nr 7, pp 97-107

TEXT: The problem of axially-symmetric disintegration of a round jet of viscous fluid, moving at a rate relative to air, is analyzed and solved by the method of small oscillations. It is assumed that the disturbance of the motion stability and the disintegration of the jet is caused by the gradually developed small oscillations which arise on the jet surface when the fluid is leaving the orifice. Calculation formulas are given for the development of disturbances and their solution, the boundary conditions, and the disintegration of the jet. Practical application to water and liquid-fuel jets is discussed. There are 6 graphs and 14 references: 11 Soviet and 3 English.

ASSOCIATION: Novocherkasskiy ordena Trudovogo Krasnogo Znameni poli-
tekhnicheskiy institut imeni S. Ordzhonikidze (Novocherkassk

Card 1/2

S/143/60/000/007/006/010
A189/A029

Axially-Symmetric Disintegration of a Round Jet of Viscous Fluid

Order of the Red Banner of Labor Polytechnical Institute
Imeni S. Ordzhonikidze); Kafedra dvigateley vnutrennego
sgoraniya (Department of Internal Combustion Engines)

SUBMITTED: January 4, 1960

Card 2/2

S/145/60/000/012/007/008
D221/D301

AUTHOR: Lyshevskiy, A. S., Candidate of Technical Sciences,
               Docent

TITLE: Determining the velocity of motion of the apex of
               flame of atomized fuel

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashonistro-
               yeniye, no. 12, 1960, 164-173

TEXT: Experiments have shown that the velocity of the apex u_f de-
pends on the speed of fuel outflow u_n, diameter of the nozzle d_n,
distance from the orifice x, physical properties of the fuel (den-
sity ρ_f, viscosity μ_f, and surface tension σ), as well as the air
density ρ_a. It is deduced that $\dfrac{u_f}{u_n} = AW_e^m M^n \rho q(\dfrac{x}{d_n})^k$, where A, n, m,

q and k are constant abstract quantities determined by analysis of
the experimental data; $W_e = u_n^2 \rho_f d_n/\sigma$, $M = \mu_f^2/\rho_f d_n \sigma$, $\rho = \rho_a/\rho_f$.
Card 1/3

Determining the velocity ...   S/145/60/000/012/007/008
                                       D221/D301

Experimental determination of the motion was made with the aid of
high-speed filming; installations used are described in detail.
There were three series of experiments: With various back-pressures
in the chamber; with different injection pressures; and with vari-
ous diameters of nozzle. When one parameter was changed, the re-
maining factors were kept constant. Analysis was carried out by

plotting the curves $\log \frac{u_f}{u_n} = f$ $(\log \frac{x}{d_n})$, and by determining the ef-

fect of the criteria ρ, W_e and M on $\frac{u_f}{u_n}$. All the curves exhi-

bited an inflexion which was assumed as a boundary between the
initial segment of motion of the flame, adjacent to the nozzle,
and the main segment. The position of the inflexion depends on W_e,

M and ρ. Generalized relationships were deduced and plotted, and
compared with experimental data published by other authors. It is
found that the velocity of the flame does not depend on W_e. This

Card 2/3

Determining the velocity ...   S/145/60/000/012/007/008
                                   D221/D301

allows W_e (which is variable in Diesel motors) to be replaced by a constant, e.g. its mean or maximum value. There are 10 figures and 3 Soviet-bloc references.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut im. S. Orzhonikidze (Novocherkassk Polytechnic Institute im. S. Ordzhonikidze)

SUBMITTED: February 2, 1960

Card 3/3

LYSHEVSKIY, A.S.

Experimental investigation of the development of an atomized
liquid jet and the generalization of experimental data according
to the angle of the jet cone. Trudy NPI 107:3-22 '60. (MIRA 14:3)
(Jets--Fluid dynamics)

27087
S/143/61/000/001/006/006
A207/A126

26.2431

AUTHOR: Lyshevskiy, A. S., Candidate of Technical Sciences, Docent

TITLE: The transition lines between the different forms of decomposition of a liquid stream

PERIODICAL: Energetlika, no. 1, 1961, 88 - 94

TEXT: The author conducted experiments and obtained data leading to the determination of the transition lines between various forms of decomposition of a liquid stream. It is pointed out that various authors such as Ohnesorge (Ref 5: Ohnesorge W. V. ZAMM, B. 16, H. 6, 1936) Tanasav and Toyoda, (Ref. 6: Tanasava J. a. Toyoda. Trans. Japan. Soc. Mech. Eng., 20, no. 92, 1954) were first to carry out similar analyses. It is further pointed out that the literature does not con- tain relations taking into account the effect of these factors. Thus, the present author conducted experiments to determine the characteristic border lines of transi- tion from one decomposition to another, with a change of as many parameters as possible. A liquid stream was investigated, which flowed from a cylindrical aper- ure of an active atomizer. Most of the experiments were conducted at atmospheric anti-pressure. Observations of the jet showed that, depending on the conditions

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S/143/61/000/001/006/006
A207/A126

The transition lines between the different forms

of the working of the jet and the parameters of the medium, the deformations could take on various forms of complexity. Measurements of the size of the solid section of the jet were carried out in addition to observations of the surface deformations. It was established that the solid section of the jet first increases with an increase of the speed, according to the right-angle law, then a hyperbolic sections follows, after which the length of the solid part of the jet begins to decrease. It was noted that a decrease of the length of the solid part of the jet for the diesel fuel was associated with the appearance of wave-like deformations. The author further established the laws of transmission from the right-angled section to the hyperbolic one. The theory of dimensions was used to evaluate the obtained experimental data. The investigations indicated that the border-line depends on the diameter of the jet aperture and the air density. It is stated that the obtained theoretical results by authors Tylor and Watkin, (Ref. 8: Tyler A. E. a. Watkin T. Phil. Mag., v. 14, no. 94, 1932) in the investigation of a vertically falling stream of various liquids, were found to coincide with the theory of the slight effect of gravity on the development of the capillary waves, (Ref 4: Kochin N. Ye. Kibel' I. A., Roze N. V. Tyeoreticheskaya gidromekhanika. I. GITTL, 1955). In the jet experiments, the fact that all the experimental points were located in one region, confirmed the low effect of gravity on the border-line rate. It is assumed

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The transition lines between the different forms

27087
S/143/61/000/001/006/006
A207/A126

that the transition lines between the various forms of decomposition for atomizers of different construction, can be determined in a similar manner. There are 7 figures and 8 references: 4 Soviet-bloc and 4 non-Soviet-bloc.

ASSOCIATION: Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni S. Ordshonikidze
(The Novocherkassk Order of the Red Banner of Labour Polytechnical Institute imeni S. Ordzhonikidze)

SUBMITTED: July 23, 1959

Card 3/3

88625

//. 7420

AUTHOR: Lyshevskiy, A. S.

TITLE: Fields of Concentration of a Sprayed Liquid in an Axially
Symmetrical Jet

TEXT: The author used a high-pressure sprayer, in which the pressure
pulsations coming from the piston pump were reduced by a special
equipment. The sprayed liquid was collected in measuring vessels arranged
in two directions perpendicular to each other. An electrical stop watch
served to measure the time in which the liquid was collected. The
experiments were conducted with Diesel oil in three series. The effect of
air counterpressure in front of the sprayer upon the concentration
distribution was examined in the first series, the spraying pressure in
the second, and the nozzle diameter in the third series. The experimental
results are represented in the form of relation $g = V_{fl} \gamma_{fl}/f_m t$, where V_{fl}

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88625

Fields of Concentration of a Sprayed Liquid   S/170/61/004/002/003/018
in an Axially Symmetrical Jet   B019/B060

denotes the liquid volume collected in one measuring vessel, γ_{fl} the
specific gravity of the liquid, f_m the inside diameter of the measuring
vessel, and t denotes the time. Fig. 1 shows the concentration of the
sprayed liquid for various distances x from the nozzle mouth. From the
interpretation of results, the following relations were obtained for the
liquid distribution in a symmetrical jet for large and small
counterpressures:

$$g = 347 g_0 \left(\frac{d_c}{x}\right)^2 \frac{M_1^{0.2}}{W_e^{0.6} Q^{1.6}} \exp\left\{-1390 \left(\frac{r}{x}\right)^2 \frac{M_1^{0.2}}{W_e^{0.6} Q^{1.6}}\right\} \qquad (13)$$

$$g = 13880 g_0 \left(\frac{d_c}{x}\right)^2 \frac{M_1^{0.2}}{W_e^{0.6} Q^{0.8}} \exp\left\{-5500 \left(\frac{r}{x}\right)^2 \frac{M_1^{0.2}}{W_e^{0.6} Q^{0.8}}\right\} \qquad (14)$$

The following relations hold in these expressions:

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Fields of Concentration of a Sprayed Liquid
in an Axially Symmetrical Jet

88625
S/170/61/004/002/003/018
B019/B060

$$W_e = U_c^2 \varrho_{fl} d / \sigma \quad ; \quad M_1 = \mu_{fl}^2 / \varrho_{fl} d \sigma \quad ; \quad \varrho = \varrho_{air} / \varrho_{fl} \; .$$

Here, d_c denotes the nozzle diameter, g_o the liquid current, x the distance from the nozzle, r the distance from the jet axis, ϱ_{air} and ϱ_{fl} the densities of air and liquid, U_c the discharge velocity. There are 4 figures and 2 Soviet references.

ASSOCIATION: Politekhnicheskiy institut, g. Novocherkask (Polytechnic Institute, Novocherkask)
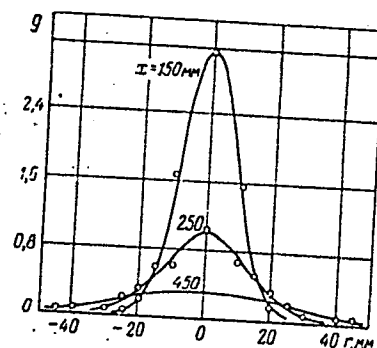
SUBMITTED: June 9, 1960

Card 3/4

Fields of Concentration of a Sprayed Liquid
in an Axially Symmetrical Jet

Legend to Fig. 1: distribution of the sprayed
liquid in the various cross sections of the
jet. Nozzle diameter 0.38 mm, spray pressure
190 kg/cm², air counterpressure 10
atmospheres excess pressure.

88625
S/170/61/004/002/003/018
B019/B060

Card 4/4

S/262/62/000/008/018/022
I007/I207

AUTHOR: Lyshevskiy, A. S.

TITLE: Study of distribution of the liquid in an atomized jet

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. 42. Silovyye ustanovki, no. 8, 1952, 61, abstract
42.8.339. "Tr. Novocherk. politekhn. in-ta", no. 112, 1961, 13–37; 39–53

TEXT: Description is given of methods and experimental intallation for testing dispersion of liquid jets in mechanical injectors with cylindrical nozzles, and various designs and operating conditions are considered. The experimental unit consisted of a 12-plunger fuel pump, a d.c. electric motor, a high-pressure accumulator and a special air chamber attached to the high pressure tank. Tests were carried out with open injector, the brass spray-nozzle of which had an opening with a diameter varying from 0.23 to 1.04 mm and a length-to-diameter ratio of 2.0 to 4.5. The fuel used was heavy (diesel) oil with a specific gravity of 0.848 g/cm^3. The results obtained showed good agreement of theoretical values of liquid jet dispersion with the experimental values found by Yugaz Zahn, Schweizer, Erastov and Li. From the analysis of experimental results obtained by Tolstov, A. I., Tsmigel'skiy, N. V., Rakhmanovich, A. N., Brilling, N. R., Pishinger, A. and many others, the authors of the second paper conclude that in all cases of liquid injection the basic factors have a constant influence on the parameters of liquid motion; injector design and pressure affect the constant coefficients, a table of which is included. There are 46 diagrams and 15 references.

[Abstracter's note: Complete translation.]

Card 1/1

LYSHEVSKIY, A.S., kand.tekhn.nauk, dotsent

Regularities in the changes of length of the twisted flame
of atomized fuel. Izv.vys.ucheb.zav.; mashinostr. no.5:85-90
'62.   (MIRA 15:10)

1. Novocherkasskiy politekhnicheskiy institut.
                  (Combustion)

LYSHEVSKIY, A.S., kand.tekhn.nauk, dotsent

Range of hydraulic giant jets. Izv. vys. ucheb. zav.; energ. 5 no.6:
113-118 Je '62.   (MIRA 15:6)

1. Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy
isntitut imeni S.Ordzhonikidze. Predstavlena kafedroy dvigateley
vnutrennego sgoraniya.
                        (Jets)

LYSHEVSKIY, A.S., kand.tekhn.nauk

Some regularities in rock cutting by means of superhigh-pressure
liquid jets. Ugol' Ukr. 6 no.9:28-29 S '62.   (MIRA 15:9)

1. Novocherkasskiy politekhnicheskiy institut.
                    (Hydraulic mining)

LYSHEVSKIY, A.S., kand.tekhn.nauk, dotsent

Determining the angle of taper of the flame of atomized fuel.
Energomashinostroenie 8 no.3:34-37 Mr '62.   (MIRA 15:2)
            (Liquid fuels—Combustion)

LYSHEVSKIY, A.S.

Change in the excess air factor over the atomized-fuel flame area.
Trudy NPI 131:17-23 '62.   (MIRA 16:3)
          (Diesel engines)   (Combustion)

LYSHEVSKIY, A.S.

Determination of speed and specific flow in an atomized fluid jet flowing
out of large apertures. Trudy NPI 131:25-29 '62.   (MIRA 16:3)
                    (Jets—Fluid dynamics)

LYSHEVSKIY, A.S.

Calculation of vertical jets. Trudy NPI 131:57-67 '62. (MIRA 16:3)
(Jets---Fluid dynamics)

LYSHEVSKIY, A.S.

Determining characteristics of inclned jets.   Trudy NPI,131:69-86
'62.   (MIRA 16:3)
                        (Jets—Fluid dynamics)

LYSHEVSKIY, A.S.; KHAYLOV, M.A., doktor tekhn.nauk, prof.,
        retsenzent; PALEYEV, N.M., inzh., red. izd-va;
        MEL'NICHENKO, F.P., tekhn. red.

        [Processes of fuel atomization by diesel jet nozzles] Pro-
        tsessy raspylivaniia topliva dizel'nymi forsunkami. Moskva.
        Mashgiz, 1963. 178 p.   (MIRA 16:6)
                (Diesel engines--Fuel systems)

L 13717-63   EPA(b)/EPR/BDS/EWT(1)   AFFTC/ASD   Pd-4/Ps-4
ACCESSION NR: AP3004726   S/0147/63/000/002/0087/0091

60

AUTHOR: Ly*shevskiy, A. S.

TITLE: Changes in the velocity profile of a round nondisintegrated liquid jet

SOURCE: IVUZ. Aviats. tekhnika, no. 2, 1963, 87-91

TOPIC TAGS: liquid jet breakup, velocity profile, fuel injection, liquid jet, laminar jet, turbulent nondisintegrated jet

ABSTRACT: In analyzing the stability and breakup of free liquid jets emerging from injection nozzles, the conventional method of small perturbations is not sufficiently accurate because the perturbation amplitude at the breakup point is of the same order of magnitude as the jet radius. For this reason a more accurate method, based on the solution of nonlinear differential equations, was developed for determining radial and axial velocity changes in the jet. The equation of motion for an axisymmetrical turbulent jet was formulated and solved for the appropriate boundary conditions to yield the following formula for the radial velocity profile:

$$u = 1.18 \; U_e^{-1.3\varkappa \frac{x}{R}} \sqrt{I_0 \left(1.485 \frac{r}{R}\right)},$$

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ACCESSION NR: AP3004726

where U is the average velocity in the cross section, I_0, a cylindrical function; R, the jet radius; r, the radial coordinate; x, the axial coordinate; and $\varkappa$, a constant (0.008—0.009). The length of the jet at which complete velocity equalization is achieved was calculated as $L/R = 16.8$—18.9. The same method used for laminar jets yielded the formula

$$u = 2Ue^{-\frac{4.92}{Re}\eta} I_0(2.22\varphi),$$

where $\varphi = r/R$ and $\eta = x/r$. The length of velocity equalization in the laminar jet is $L_x/R = 0.14$ Re. Two figures (see Enclosure) show that the formulas derived describe satisfactorily the velocity changes in almost the entire cross section. Orig. art. has: 19 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 18Jun62

SUB CODE: PR, AI

DATE ACQ: 06Sep63

NO REF SOV: 004

ENCL: 02

OTHER: 002

Card 2/2

LYSHEVSKIY A.S., dotsont

Determination of the force of the impact of a hydraulic giant jet on a barrier. Izv. vys. ucheb. zav.; gor. zhur. 6 no.7:29-37 '63.
(MIRA 16:9)

1. Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni S.Ordzhonikidze. Rekomendovana kafedroy dvigateley vnutrennego sgoraniya Novocherkasskogo politekhnichdskego instituta.
(Hydraulic mining)

LYSHEVSKIY, A.S., kand.tekhn.nauk, dotsent

Motion of drops of a liquid in a gas current. Izv. vys. ucheb.
zav.; energ. 6 no.7:75-81 Jl '63.   (MIRA 16:8)

1. Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy
institut imeni S.Ordzhonikidze. Predstavleno kafedroy dvigateley
vnutrennego sgoraniya.   (Fluid dynamics)

LYSHEVSKIY, A.S.

Design of mechanical atomizer nozzles.   Izv.vys.ucheb.zav.;khim.i
khim.tekh. 6 no.5:865-873 '63.   (MIRA 16:12)

1. Novocherkasskiy politekhnicheskiy institut imeni Ordzhonikidze,
kafedra dvigateley vnutrennego sgoraniya.

LYSHEVSKIY, A.S., kand. tekhn. nauk, dotsent

Determining the coefficient of compressibility of motor fuels.
Izv. vys. ucheb. zav.; mashinostr. no.2:76-81 '64.   (MIRA 17:5)

1. Novocherkasskiy politekhnicheskiy institut.

S/0273/64/000/006/0042/0043

ACCESSION NR: AR4042146

SOURCE: Ref. zh. Dvigateli vnutrennego sgoraniya. Otdel'ny'y vy'pusk,
Abs. 6.39.238

AUTHOR: Ly'shevskiy, A. S.

TITLE: Relative motion of single drops

CITED SOURCE: Tr. Novocherk. politekhn. in-ta, v. 148, 1963, 63-77

TOPIC TAGS: aerodynamic drag, liquid drop, drag coefficient, drop motion

TRANSLATION: It is shown that the earlier-proposed empirical dependences of the co-
efficient of aerodynamic drag on Re number unsatisfactorily agree with the results
of experiments. This is explained by the fact that the shape of the drops was
taken to be spherical. In distinction from the flow around a solid body, on whose
surface the velocity of the flow is equal to zero, on the boundary of two liquid
phases both liquids preserve mobility; on this boundary, only the normal, but not
the tangential, component of velocity is converted to zero. On falling, the drop

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ACCESSION NR: AR4042146

is deformed due to the mobility of the interface and nonuniform distribution of pressure on the surface of the spherical drop, and it gradually takes on the shape of a convex lens with uneven edges. Deformation is accompanied by pulsations with low amplitude. On further increase of velocity, the drop splits. On the basis of analysis of differential equations of motion of drops the main criteria of similarity are obtained, considering Re, viscosity of the fluid of the drop and the medium, and their density. The boundary is established at which the drag coefficient of the drop intensely increases as compared to the drag coefficient of spheres, which is determined by the threshold Re number. The derived equations allow the determination of velocity and path of the drop from the beginning of motion in a wide range of variation of Re numbers. Bibliography: 12 references.

SUB CODE: ME   ENCL: 00

Card 2/2

L 13268-65   EWT(d)/EWT(l)/EWT(m)/EWP(w)/EWP(f)/EWP(v)/T-2/EWP(t)/EWP(k)/EWP(b)
Pf-4   ASD(d)/SSD/AFWL/AEDC(b)/AFETR/ASD(p)-3/AFTC(p)   JD/BW/EM

ACCESSION NR: AP4048511   8/0147/64/000/004/0077/0085

AUTHOR: Lytshevskiy, A. S.

TITLE: Stability of protective films in heat engines

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 4, 1964, 77-85

TOPIC TAGS: liquid fuel rocket, rocket, combustion chamber, liquid
film cooling

ABSTRACT: The stability of liquid films used for cooling liquid rocket
combustion chambers or nozzles was theoretically analyzed, with the
assumption that the liquid is weightless and incompressible and that
the viscosities of the gas and liquid are negligible. The solution of
the Laplace equation describing the propagation of a perturbation in
the liquid film moving along a cylindrical surface yielded stability
criteria, in terms of Bessel's functions and the Weber number, which
were evaluated for longwave and shortwave perturbations. Fig. 1 of the
enclosure shows that axially symmetric oscillations ($n=0$) are the
least stable and lead most rapidly to a breakup of the liquid film.

Card   1/3

L 13268-65

ACCESSION NR: AP4048511

Further results showed that at small We values, the length of the
continuous film increases with increasing We, whereas at large We values,
when breakup is caused by shortwave perturbations, the length of the
film decreases with increasing We. The results were found to be in
fair agreement with previously published experimental data. Orig. art.
has: 4 figures and 32 formulas.

ASSOCIATION: none

SUBMITTED: 10Dec62   ENCL: 00   SUB CODE: PR

NO REF SOV: 005   OTHER: 001   ATD PRESS: 3128

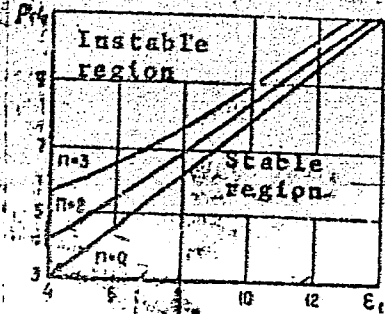Card 2/3

L 13268-65

ACCESSION NR: AP4048511

ENCLOSURE: 01

Fig. 1. Dependence of We = f (ϵ_l) at different values of n

ρ — Gas-liquid density ratio; We — Weber number; $\epsilon_l = kr_l$ ($k = 2\pi/l$, l = wave length, r_l = value of coordinate); n — parameter characterizing the number of waves on the circumference of the cylinder.

Card   3/3

LYSENKIY, ?.S., kand. tekhn. nauk, dotsent

Changes in the resistance coefficient of liquid drops. Izv.vys.ucheb. zav.;mashinostr. no.9:75-81 '64.
(MIRA 18.1)

1. Novocherkasskiy politekhnicheskiy institut.

LYSHEVSKIY, A.S., doktor tekhn.nauk

Thermal calculations for cylinder ribs of air-cooled engines. Trakt. i sel'khozmash. no.1:14-16 Ja '65.
(MIRA 18:3)

1. Novocherkasskiy politekhnicheskiy institut im. Ordzhonikidze.

LYCHEVSKIY, A.S.

Determining the length of the unbroken part of a fluid jet stream. Izv. vys. ucheb. zav.; neft' i gaz 6 n .2:67-71 '65.
(MIRA 18:3)

1. Novocherkasskiy politekhnicheskiy institut im. S. Ordzhonikidze.

L 47742-65 EWT(l)/EWP(m) Pd-1 A/

ACCESSION NR: AP5011578   UR/0143/65/000/004/0066/0074

AUTHOR: Lyshevskiy, A. S. (Doctor of technical sciences, Professor)

TITLE: Influence of the surrounding medium on the atomization of a hollow swirling liquid jet

SOURCE: IVUZ. Energetika, no. 4, 1965, 66-74

TOPIC TAGS: liquid jet atomization, swirl jet, fuel injector, fuel atomizer, liquid jet

ABSTRACT: In spite of the wide use of swirl atomizers, the theory of the breakup of swirling jets has not yet been elaborated and the types and dimensions of atomizers are selected on an experimental basis. In the present study an attempt is made to establish this theory. The stability and the disintegration of a circular hollow jet are analyzed, and a solution is obtained by a method derived previously by the author. Relationships for various flow parameters are established under different conditions of the jet and of the surrounding medium. The following conclusions are reached: 1) The breakup of a swirling liquid jet improves as the liquid density and Weber number increase. 2) The theoretically established rela-

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L 47742-65
ACCESSION NR: AP5011578

tionship for the effect of dimensionless parameters on the stability and breakup of a hollow, swirling jet were fully confirmed by the experiments. Orig. art. has: 29 formulas and 3 figures.

[AC]

ASSOCIATION: Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni Sergo Ordzhonikidze (Novocherkassk Polytechnical Institute)

SUBMITTED: 18Apr64

NO REF SOV: 006

ENCL: 00

OTHER: 001

SUB CODE: ME, PR

ATD PRESS: 4004

Card 2/2

LYSHEVSKIY, A.S., doktor tekhn.nauk, prof.

Stability of the motion of a liquid in rotary nozzles. Izv.vys.ucheb.
zav.; energ. 8 no.10:84-91 O '65.
(MIRA 18:10)

1. Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy
institut imeni Sergo Ordzhonikidze. Predstavlena kafedroy dvigateley
vnutrennego sgoraniya.

L 39534-66 EWT(1)/T   GD/JK

ACC NR: AP6006429

SOURCE CODE: UR/0143/65/000/010/0084/0091

AUTHOR: Lyshevskiy, A. S. (Doctor of technical sciences, Professor)

ORG: Novocherkassk "Order of the Red Banner of Labor" Polytechnical Institute im. Sergo Ordzhonikidze (Novocherkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut)

TITLE: Stability of liquid motion in rotary atomizers

SOURCE: IVUZ. Energetika, no. 10, 1965, 84-91

TOPIC TAGS: particle motion, fluid dynamics, Navier Stokes equation

ABSTRACT: This paper gives a theoretical analysis of the stability of liquid motion on the inner surface and at the output from the spinning cup in a rotary atomizer. It is assumed that a thin film of the liquid is in forward motion with a given velocity and that the particles of liquid are in rotary motion due to rotation of the cup at a given velocity. Superimposed on this motion is a field of small axially symmetric perturbations with given longitudinal and radial components of velocity. Differential Navier-Stokes equations are given which describe the mo-

Card 1/2   UDC: 621.43.037

L 39534-66
ACC NR: AP6006429

tion of these perturbations. The longitudinal and radial velocity components are expressed in terms of a stream function and introduced into the initial equations and a formula is derived which describes the wave component of the rotational motion. Boundary conditions are given for deriving a characteristic equation for development of small perturbations. Formulas are derived for determining the unknown parameters in this equation. Special formulas are given for determining the stability of motion for high and low viscosity liquids. The behavior of a cylindrical liquid film at the outlet from the rotating cup is analyzed. Orig. art. has: 5 figures, 30 formulas.

SUB CODE: 20/   SUBM DATE: 17Sep64/   ORIG REF: 005/   OTH REF: 002

Card 2/2   vmb

BELYAKOV, N.F. (Khar'kov); LYSHKEVICH, V.A. (Khar'kov); STOROZHENKO, A.A.
(Khar'kov); CHEBOTAREV, D.N. (Khar'kov)

Concrete piles with a corrugated surface. Osn., fund. i mekh.
grun. 4 no.3:17-18 '62.   (MIRA 15:7)
                        (Piling (Civil engineering))
                        (Precast concrete construction)

LYSHKO, G. P.

LYSHKO, G. P. -- "Investigation of Lubricating Oils in the Engines of a
    DT-54 Tractor Under Operating Conditions." Sub 21 Nov 52, Moscow Inst
    of Mechanization and Electrification of Agriculture imeni V. M. Molotov.
    (Dissertation for the Degree of Candidate in Technical Sciences).

SO: Vechernaya Moskva, January-December 1952

LYSHKO, G.P.

Tractors

Ways of improving the use of diesel tractors. Les i step' 4 No. 7, 1952

9. Monthly List of Russian Accessions, Library of Congress, __September__ 1952 Uncl.

LYSHKO, G.P., dotsent, kand.tekhn.nauk

Changes in the quality of diesel oils during the operation of
DT-54 tractors. Trudy MIMESKH 8:71-84 '59.   (MIRA 13:9)
(Diesel fuels)

LYSHKO, G.P.; KATS, G., red.; TEL'PIS, V., tekhn.red.

[Technological progress in agriculture] Tekhnicheskii progress
v sel'skom khoziaistve. Kishinev, Gos.izd-vo "Kartia moldo-
veniaske," 1960.   105 p.   (MIRA 14:6)
        (Agricultural machinery)

STETYUKHA, Ye.I.; PIVOVAROV, V.T.; LYSHKO, N.A.

Relationship between the density, specific weight, and porosity of rocks. Izv. vys. ucheb. zav.; neft' i gaz 4 no.11:23-27 '61.
(MIRA 17:2)

1. Groznenskiy neftyanoy institut.

LYSIAK, Marian

Effect of sex hormones on post-histaminic pH changes of gastric juice.
Endokr. pol. 13 no.4:459-462 '62.

1. Zaklad Patologii Ogolnej I Doswiadczalnej AM w Krakowie Kierownik:
prof. dr B. Giedosz.
           (GASTRIC JUICE)   (SEX HORMONES)   (HISTAMINE)
                        (HYDROGEN ION CONCENTRATION)

LYSIAK, Marian

Sex hormones and pH of the gastric juice. I. Endokr. pol. 13 no.5:
609-612 '62.

1. Zaklad Patologii Ogolnej i Doswiadczalnej AM w Krakowie.Kierownik:
prof. dr B. Giedosz.
        (GASTRIC ACIDITY DETERMINATION)   (HYDROGEN ION CONCENTRATION)
                        (SEX HORMONES)

LYSIAK, Marian

Sex hormones and pH of the gastric juice. II. Endokr. pol. 13 no.5: 613-615 '62.

1. Zaklad Patologii Ogolnej i Doswiadczalnej AM w Krakowie Kierownik: prof. dr B. Giedosz.
(GASTRIC ACIDITY DETERMINATION)   (HYDROGEN ION CONCENTRATION)
(SEX HORMONES)

GIEDOSZ, Bronislaw; LYSIAK, Marian

    The course of estrus in hypothermia. Pat.polska 14 no.4:473-
475   O-D'63

    1. Z Zakladu Patologii Ogolnej i Doswiadczalnej AM w Krakowie;
kierownik: prof.dr.med. B.Giedosz

*

LYSIAK, Marian

Somatotropic hormone and pH of the gastric juice. Pat. polska
14 no.4:477-478   O-D'63

1. /Z Zakladu Patologii Ogolnej i Doswiadczalnej AM w Krakowie;
kierownik: prof.dr.med. B.Gledosz.

LYSIAK, Marian

Thyrotropic hormone and the pH of the gastric juice. Pat.Pol.
15 no.1:31-33 Ja-Mr'64

Effect of thyrotropic hormone on the pH of the gastric juice of
thyroidectomized rats.   Ibid.:35-36

1. Z Zakladu Patologii Ogolnej i Doswiadczalnej AM w Krakowie;
kierownik: prof.dr.med. B.Giedosz.

LYSTEN, Jan

    Economic effectiveness of transportation by pallets. Doprava
    no.5:397-399 '64.

LYSIK, B.

On the statical computation of conoid shells.   In English.   p. 213

ZASTOSOWANIA MATEMATYKI.   (Polska Akademia Nauk.   Instytut Matematyczny)
Warsawa, Poland.   Vol. 4, no. 3, 1959

Monthly list of East European Accessions (EEAI) LC, Vol. 9, no. 2, Feb. 1960

Uncl.

LYSIK, B. (Wroclaw)

Solution of boundary problems of stress distribution in a
conoidal shell. Zastos mat 7 no.3:307-316 '64.

LYSIKHIN, S.S. (g. Gor'kiy).

Two evening gatherings devoted to physics. Fiz. v shkole 13 no.3:69-72
My-Je '53.   (MLRA 6:6)
                                            (Physics--Experiments)

LYSIKHIN, S.S. (g. Gorkiy)

Subject matter for the study of practical application at physics
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     (Heat--Study and teaching)   (MLRA 7:9)

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no.6:74-76 N-D '62.   (MIRA 16:2)
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CA

New method of determining the composition of bitumen and petroleum. A. I. Lyulkhina. *Stroitel. Dorog* 10, No. 5, 17-18(1947).—The method is based on the principle of successive coagulation, with conventional solvents. The sample is dissolved in a small amt. of C_6H_6 or $CHCl_3$, and oil is sepd. from the soln. by coagulating the balance of the components with acetone added in small portions. The ppt. is redissolved in $CHCl_3$ or C_6H_6 to form a soln. from which asphaltenes are pptd. with a mixt. of $Me_2CO-C_6H_6$ or $Me_2CO-CHCl_3$. Resins are recovered from the filtrate. The use of a 0.01 N soln. of Brilliant Green in titrating the asphaltogenic acids at the start of the analysis is suggested. For petroleum asphalts the results are said to be in good agreement with those by the Marcusson method, while for natural asphalts the values of the oil content are somewhat too high at the expense of resins. With cracked residues and shale bitumen, the prepn. of the C_6H_6 soln. is omitted, and the oil is sepd. by heating the sample with Me_2CO.   Bruno C. Metzner

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Technology

Improving roads of the light-duty type, Moskva, Dorizdat, 1950.

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KHANINA, TS.G., mladshiy nauchnyy sotrudnik; CHVANOV, V.G., redaktor;
KOGAN, F.L., tekhnicheskiy redaktor

[Technical specifications for the laying asphalt concrete pavements
in the city] Tekhnicheskie pravila ustroistva dorozhnykh pokrytii iz
asfal'tobetona, primeniaemogo v goriachem sostoianii. Moskva, Nauchno-
tekhn. izd-vo avtotransp. lit-ry, 1955. 115 p.   (MLRA 9:10)

1. Russia (1923-   U.S.S.R.) Ministerstvo avtomobil'nogo transporta
i shosseynykh dorog. Tekhnicheskoye upravleniye.
        (Pavements, Concrete)

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Using saline soils for building road foundations and pavements
with the use of bitumens. Avt.dor.19 no.2:14-18 F '56.(MIRA 9:6)
(Soil mechanics) (Road construction)

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Use of rubber for improving the operating qualities of asphalt concrete pavements. Avt.dor.19 no.8:10-11 Ag '56. (MIRA 9:10)
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ALEKSEYEV, A.P., otvetstvennyy za vypusk; GALAKTIONOVA, Ye.N.,
tekhn.red.

[Technical specifications for installing pavement and roadbeds
of broken stone, gravel, soil and other mineral materials mixed
with asphalt or tar] Tekhnicheskie pravila ustroistva dorozhnykh
pokrutii i osnovanii iz obrabotannykh bitumom ili degtem shchebnia,
graviia, grunta i drugikh mineral'nykh materialov. VTP 106-57/
Glavdorstroi SSSR. Moskva, Nauchno-tekhn.izd-vo avtotransp.lit-ry,
1957. 146 p.   (MIRA 10:12)

1. Russia (1923-   U.S.S.R.) Glavnoye upravleniye po stroitel'stvu
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                            (Road materials)

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Avt. dor. 21 no.1:22-24 Ja '58.   (MIRA 11:1)
                              (Road materials)

LYSIKHINA, Aleksandra Ivanovna, starshiy nauchnyy sotrudnik; REBINDER,
P.A., akademik; retsenzent; SERB-SERBINA, N.N., kand.khim.
nauk, starshiy nauchnyy sotrudnik, retsenzent; KHOTUNTSEV, L.L.,
kand.tekhn.nauk, starshiy nauchnyy sotrudnik, red.; ZUBKOVA,
M.S., red.izd-va; DONSKAYA, G.D., tekhn.red.

[Surface activating additives for increasing water-resisting
properties of pavements made with bitumens and tars] Poverkh-
nostnoaktivnye dobavki dlia povysheniia vodoustoichivosti
dorozhnykh pokrytii s primeneniem bitumov i degtei. Moskva,
Nauchno-tekhn.izd-vo M-va avtomobil'nogo transp. i shosseinykh
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                (Pavements, Bituminous)

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LYSIKHINA, Aleksandra Ivanovna, kand.tekhn.nauk; MIKHAYLOV,
Valentin Vasil'yevich, kand.tekhn.nauk; PANTELEYEV, Fedor
Nikolayevich, kand.tekhn.nauk; SAMOYLOV, Mikhail Pavlovich,
inzh.; ORNATSKIY, N.V., prof., doktor tekhn.nauk, glavnyy red.;
MOROZOV, V.I., red.; MAL'KOVA, N.V., tekhn.red.

[Handbook for road engineers; road materials] Spravochnik
inzhenera-dorozhnika; dorozhno-stroitel'nye materialy. Moskva,
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dorog RSFSR, 1959. 308 p.   (MIRA 12:8)
                   (Road materials)

LYSIKHINA, Aleksandra Ivanovna; SILAKOV, D.R., inzh., retsenzent;
ZUBKOVA, M.S., red.; KOVRIZHNYKH, L.P., red.izd-va;
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[Road pavements and subgrades made with bitumens and tars]
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retsenzent; RUDENSKAYA, I.M., retsenzent; SYUN'I, G.K.,
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